

REMARKS

Claims 1-31 are pending in the present patent application. Claims 1-31 stand rejected; and claims 8, 18, and 29 stand objected to. This application continues to include claims 1-31.

The Examiner has objected to claims 8, 18, and 29 because of “informalities.” In making the objection, the Examiner asserts that the following language is grammatically incorrect: “wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot.” The Examiner states that appropriate correction is required, and indicates that the claim language was construed as follows: “wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, **each** rib being received in a **corresponding vertical** slot.” (Emphasis is from the Examiner’s statement).

Applicants believe that claims 8, 18, and 29 are clear, definite, and grammatically correct as originally filed, and respectfully request reconsideration of the Examiner’s objection in view of the following.

Applicants’ use of the word, “said,” following the word “each,” and between the words, “corresponding” and “vertical,” is provided as an indication that the elements, “rib” and “vertical slot,” were previously introduced. For example, in claim 8, the “vertical slot” element was originally introduced in the phrase, “wherein said opening includes at least one substantially vertical slot” (emphasis added), hence Applicants’ subsequent use of “a corresponding said vertical slot” (emphasis added). The “rib” element was previously introduced in the phrase, “said chimney having at least one substantially vertical rib” (emphasis added), hence Applicants’ subsequent use of “each said rib” (emphasis added).

Accordingly, Applicants respectfully request the Examiner to withdraw the objection to claims 8, 18, and 29.

Rejections Under 35 U.S.C. 102(e)

Claims 1, 11, and 22 were rejected under 35 U.S.C. 102(e) as being anticipated by Johnson, et al. (U.S. Patent 6,402,290). Applicants respectfully disagree with the stated grounds for the rejection of each claim, and request reconsideration of the rejection of claims 1, 11, and 22 in view of the following.

Johnson, et al., is directed to a replaceable inkjet printhead cleaner service station system including a capping system that compensates for spacing variations between the cap and the printhead (col. 1, lines 9-15). Johnson, et al., discloses a service station 70, including a translationally moveable pallet 72, that is selectively driven in a forward direction 76 and in a rearward direction 78 (col. 7, lines 33-36). Four replaceable inkjet printhead cleaner units 80, 82, 84, 86 are installed into pallet 72 (col. 7, lines 38-45). The printhead cleaner units are described with reference to a generic cleaner unit 100, that includes a base 102 (col. 7, line 61). Base 102 includes a spittoon chamber 108 and four cam surfaces or cap ramps 110, which are used during the printhead capping and uncapping process (col. 8, lines 2-5). A cap sled 150 has four cam followers 152 which ride along the cap ramps or cams 110 of base 102 and has an activation wall 151 with a rear surface that engages the printhead (col. 9, lines 14-19). Movement of pallet 72 in direction 78 moves spittoon chamber 108 in direction 78 and elevates the cap sled 150, as cap sled 150 engages the printhead (col. 15, lines 54-57). Movement of pallet 72 in the direction 76 moves spittoon chamber 108 in direction 76, and

cap sled 150 is lowered. In no case is movement of spittoon chamber 108 in response to movement of cap sled 150.

Applicants believe that claims 1, 11, and 22 patentably define Applicants' invention over the cited reference, Johnson, et al., for the reasons set forth below.

Claim 1 is directed to a maintenance station for a printer. Claim 1 recites a fixed support housing; a sled supported on said support housing and being movable relative to said support housing in both a horizontal direction and a vertical direction; and a spit containment device configured to receive spit ink, said spit containment device having a fixed vertical position and being horizontally movable in response to movement of said sled.

In contrast to claim 1, Johnson, et al., discloses a pallet 72 that is moveable in only the horizontal direction, the pallet 72 holding a spittoon chamber 108 and a cap sled 150, where the cap sled 150 is elevated by rearward motion of pallet 72. Rather than the spittoon chamber 108 being movable in response to the movement of cap sled 150, spittoon chamber 108 is movable in response to movement of pallet 72, regardless of horizontal movement or non-movement of cap sled 150 during the translation of pallet 72.

Accordingly, Johnson, et al., does not disclose a spit containment device configured to receive spit ink, the spit containment device having a fixed vertical position and being horizontally movable in response to movement of the sled, as recited in claim 1.

Furthermore, the Examiner asserts that the Johnson, et al., reference 102 is a fixed support housing. Even if the Examiner's assertion is accurate, then, spittoon 108 is fixed, unlike the spittoon containment device of claim 1. In any event, Applicants respectfully disagree with the Examiner's assertions for the reasons that follow.

Applicants submit that in contrast to a fixed support, as recited in claim 1, Johnson, et al., discloses a service station 70 including a translationally moveable pallet 72 that includes base 102, which is selectively driven in a forward direction 76 and in a rearward direction 78 (col. 7, lines 33-36). Thus, rather than a fixed support housing, base 102 is the base of a cleaner unit that is installed into a translationally moveable pallet 72, and is thus a moveable support. In turn, rather than a sled supported on a fixed support housing, as recited in claim 1, the Johnson, et al., cap sled 150 is supported on translationally moveable pallet 72.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that Johnson, et al., does not disclose, teach, or suggest the subject matter of claim 1.

Claim 11 is directed to an ink jet printer. Claim 11 recites a maintenance station including a fixed support housing; a sled supported on said support housing and being movable relative to said support housing in both a horizontal direction and a vertical direction; and a spit containment device configured to receive ink spit from said printhead, said spit containment device having a fixed vertical position relative to said printhead and being horizontally movable in response to movement of said sled.

For substantially the same reasons as set forth above with respect to claim 1, Applicants respectfully submit that Johnson, et al., does not disclose, teach, or suggest the subject matter of claim 11.

Claim 22 is directed to a maintenance station for a printer. Claim 22 recites a fixed support housing; a sled supported on said support housing and being movable relative to said support housing in both a horizontal direction and a vertical direction; and a spit containment device configured to receive spit ink, said spit containment device having a fixed vertical position and being horizontally movable relative to said support housing.

For substantially the same reasons as set forth above with respect to claim 1, Applicants respectfully submit that Johnson, et al., does not disclose, teach, or suggest the subject matter of claim 22.

Accordingly, for at least the reasons set forth above, Applicants believe that claims 1, 11, and 22 are in condition for allowance in their present form, and thus respectfully request that the rejection of claims 1, 11, and 22 under 35 U.S.C. 102(e) be withdrawn.

Rejections Under 35 U.S.C. 103

Claims 2-10, 12-20, and 23-31 were rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson, et al., in view of Lou, et al. (U.S. Patent 5,997,128). Applicants respectfully disagree with the stated grounds for the rejection of each claim, and request reconsideration of the rejection of claims 2-10, 12-20, and 23-31 in view of the following.

Lou, et al., is directed to a translational printhead servicing station and method for maintaining inkjet printhead health (col. 1, lines 6-8). Lou, et al., discloses, as prior art, spittoon designs including tall narrow designs having a chimney through which ink is spit (col. 2, lines 8-9). The Lou, et al., apparatus includes a translational service station 45, having a frame 46 including a stationary base 60, and two sliding platforms, pallets, or shuttles, here a cap shuttle 62 and a primer shuttle 64, joined together to define a collapsible spittoon 65 (col. 6, lines 56-61). Lou, et al., also discloses an auxiliary spittoon chimney 200 defined by a U-shaped channel wall 202, extending upwardly from the service station base 60, and the surface the inboard sidewall 67 which faces toward the printzone 25 (col. 12, lines 47-50).

Applicants believe that claims 2-10, 12-20, and 23-31 patentably define Applicants' invention over the cited references, Johnson, et al. in view of Lou, et al., for the reasons set

forth below. Applicants note that the Examiner relies upon Lou, et al., solely for the proposition that “the spit containment device comprises a chimney.”

Claims 2-10 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 1. In addition, claims 2-10 further and patentably define the invention over the cited references, Johnson, et al., in view of Lou, et al., taken alone or in combination.

For example, claim 5 is directed to the maintenance station of claim 4, wherein said support housing includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot. The Examiner asserts that Johnson, et al., discloses a support housing that “includes at least one substantially horizontal slot (figure 8, reference 182), the spit containment device having at least one projection received in the at least one slot (figure 8, reference 108, 182).” The Applicants respectfully disagree with the Examiner’s assertions for the reasons that follow.

Assuming, arguendo, that the Johnson, et al., support housing “includes at least one substantially horizontal slot (figure 8, reference 182),” as asserted by the Examiner, Applicants respectfully submit that the spit containment device does not have “at least one projection received in the at least one slot (figure 8, reference 108, 182),” as asserted by the Examiner. Rather, Johnson, et al., discloses that it is cap sled 150 which has four cam followers 152 which ride along the cap ramps or cams 110, 182 (Fig. 8; col. 9, lines 14-19; col. 15, lines 54-57). No portion of the spittoon chamber 108 of Johnson, et al. includes a projection received in the slot formed by cam surfaces 110, 182. Applicants thus respectfully submit that Johnson, et al., does not disclose, teach, or suggest wherein the support housing

includes at least one substantially horizontal slot, the chimney having at least one projection received in the at least one slot, as recited in claim 5.

In addition, Applicants respectfully submit that Lou, et al., does not disclose, teach, or suggest a maintenance station, wherein said support housing includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot, as recited in claim 5. Rather, Lou, et al., discloses a collapsible spittoon 65 (col. 6, lines 60-61), and an auxiliary spittoon chimney 200 defined by a U-shaped channel wall 202, extending upwardly from the service station base 60, and the surface the inboard sidewall 67 which faces toward the printzone 25 (col. 12, lines 47-50).

Accordingly, claim 5 is believed allowable in its own right.

Claim 8 is directed to the maintenance station of claim 7, wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot. The Examiner asserts that Johnson, et al., discloses that “the opening includes at least one substantially vertical slot (figure 8, reference 182; slot indicated by reference 182 has both substantially horizontal, as well as substantially vertical portions), the spit containment device having at least one substantially vertical rib (figure 8, reference 152), the rib being received in the vertical slot (figure 8)”. The Applicants respectfully disagree with the Examiner’s assertions for the reasons that follow.

Rather than an opening that includes at least one substantially vertical slot, the chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot, as recited in claim 8, Johnson, et al., discloses a cap sled 150 which has four cam followers 152 which ride along the cap ramps or cams 110, 182 (see Fig.

8; col. 9, lines 14-19; col. 15, lines 54-57). The Applicants respectfully submit that a cap sled having cam followers received in cam surfaces does not disclose, teach, or suggest wherein the opening includes at least one substantially vertical slot, the chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot, as recited in claim 8.

In addition, Applicants respectfully submit that Lou, et al., does not disclose, teach, or suggest a maintenance station, wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot, as recited in claim 8. Rather, Lou, et al., discloses a collapsible spittoon 65 (col. 6, lines 60-61), and an auxiliary spittoon chimney 200 defined by a U-shaped channel wall 202, extending upwardly from the service station base 60, and the surface the inboard sidewall 67 which faces toward the printzone 25 (col. 12, lines 47-50).

Accordingly, claim 8 is believed allowable in its own right.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that the cited references, Johnson, et al., in view of Lou, et al., taken alone or in combination, do not disclose, teach, or suggest the subject matter of claims 2-10, depending from claim 1. The Applicants thus respectfully request that the rejection of claims 2-10 under 35 U.S.C. 103(a) be withdrawn.

Claims 12-20 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 11. In addition, claims 12-20 further and patentably define the invention over the cited references, Johnson, et al., in view of Lou, et al., taken alone or in combination.

For example, claim 15 is directed to the printer of claim 14, wherein said support housing includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot. For substantially the same reasons as set forth above with respect to claim 5, the Applicants respectfully submit that Johnson, et al., in view of Lou, et al., does not disclose, teach, or suggest wherein the support housing includes at least one substantially horizontal slot, the chimney having at least one projection received in the at least one slot, as recited in claim 15. Accordingly, claim 15 is believed allowable in its own right.

Claim 18 is directed to the printer of claim 17, wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot. For substantially the same reasons as set forth above with respect to claim 8, the Applicants respectfully submit that Johnson, et al., in view of Lou, et al., does not disclose, teach, or suggest wherein the opening includes at least one substantially vertical slot, the chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot, as recited in claim 18. Accordingly, claim 18 is believed allowable in its own right.

Accordingly, for at least the reasons set forth above, the Applicants respectfully submit that the cited references, Johnson, et al., in view of Lou, et al., taken alone or in combination, do not disclose, teach, or suggest the subject matter of claims 12-20, depending from claim 11. The Applicants thus respectfully request that the rejection of claims 12-20 under 35 U.S.C. 103(a) be withdrawn.

Claims 23-31 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 22. In addition, claims 23-31 further and patentably define the

invention over the cited references, Johnson, et al., in view of Lou, et al., taken alone or in combination.

For example, claim 26 is directed to the maintenance station of claim 25, wherein said support housing includes at least one substantially horizontal slot, said chimney having at least one projection received in said at least one slot. For substantially the same reasons as set forth above with respect to claim 5, the Applicants respectfully submit that Johnson, et al., in view of Lou, et al., does not disclose, teach, or suggest wherein the support housing includes at least one substantially horizontal slot, the chimney having at least one projection received in the at least one slot, as recited in claim 26. Accordingly, claim 26 is believed allowable in its own right.

Claim 29 is directed to the maintenance station of claim 28, wherein said opening includes at least one substantially vertical slot, said chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot. For substantially the same reasons as set forth above with respect to claim 8, the Applicants respectfully submit that Johnson, et al., in view of Lou, et al., does not disclose, teach, or suggest wherein the opening includes at least one substantially vertical slot, the chimney having at least one substantially vertical rib, each said rib being received in a corresponding said vertical slot, as recited in claim 29. Accordingly, claim 29 is believed allowable in its own right.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that the cited references, Johnson, et al., in view of Lou, et al., taken alone or in combination, do not disclose, teach, or suggest the subject matter of claims 23-31, depending from claim

22. Applicants thus respectfully request that the rejection of claims 23-31 under 35 U.S.C. 103(a) be withdrawn.

Accordingly, for at least the reasons set forth above, Applicants believe that claims 2-10, 12-20, and 23-31 are in condition for allowance in their present form, and thus respectfully request the allowance of claims 2-10, 12-20, and 23-31.

Claim 21 was rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson, et al., in view of Lou, et al., and in further view of Vega, et al. (U.S. Patent Application Publication No. 2002/0158941 A1). The Applicants respectfully disagree with the stated grounds for the rejection of claim 21, and request reconsideration of the rejection of claim 21 in view of the following.

Vega, et al., is directed to a print nozzle servicing mechanism (page 1, paragraph 0001). Vega, et al., discloses that ink drops ejected from any nozzle of any of the six printheads will be directed towards, and will impact against the horizontal, planar surface 82 of the spitting frame 80, and in the Vega, et al., embodiment, the preferred distance between the nozzle plate of each printhead and the surface 82 when it is positioned horizontally as shown in Fig. 3a (i.e. "spitting distance") is approximately 6 mm (page 4, paragraph 55). Vega, et al, discloses that this distance reduces the aerosol effect experienced when spitting to a satisfactory level (page 4, paragraph 55). Vega, et al., also discloses, in paragraph 0056, bridging pages 4 and 5, the following. If the "spitting distance" is reduced much beyond 6 mm, the aerosol effect is increased when spitting frame is manufactured from a hard plastic material, due to the ink drops splashing against the spitting frame surface. However, if the surface of the spitting frame is made from a softer material, such as foam, the spitting distance may be reduced to approximately 1 mm. Vega, et al., also discloses that the "spitting

distance" may be increased to 10 mm or more whilst continuing to reduce the aerosol effect in a beneficial, although reduced manner.

Applicants believe that claim 21 patentably defines the Applicants' invention over the cited references, Johnson, et al. in view of Lou, et al., and in further view of Vega, et al., for the reasons set forth below. In addition, claim 21 is believed allowable due to its dependence, indirectly, upon otherwise allowable base claim 11.

Applicants note that the Examiner relies on Vega, et al., solely for the proposition of "reducing spitting distance to 1.0 mm."

Claim 21 is directed to the printer of claim 12, wherein a gap between said chimney and said printhead is not greater than approximately 1.0 mm when said chimney receives the ink spit from said printhead. The Examiner concedes that Johnson, et al., in view of Lou, et al., does not disclose a gap between said chimney and said printhead is not greater than approximately 1.0 mm when said chimney receives the ink spit from said printhead. However, the Examiner asserts that Vega, et al., discloses reducing the spitting distance to 1.0 mm. The Applicants respectfully disagree with the Examiner's assertion for the reasons that follow.

In contrast to claim 21, Vega, et al. fails to disclose a chimney, let alone a chimney positioned such that the gap between the chimney and the printhead is not greater than approximately 1.0 mm. Vega, et al., discloses that ink drops ejected from any nozzle will impact against the horizontal, planar surface 82 of the spitting frame 80. In view of the structural differences between Vega, et al. and Johnson, et al. or Lou, et al. one would not be motivated to combine the teachings of Vega, et al. with Johnson, et al. and Lou, et al. to form a gap between a chimney and a printhead not greater than approximately 1.0 mm.

Accordingly, for at least the reasons set forth above, Applicants respectfully submit that the cited references, Johnson, et al., Lou, et al., and Vega, et al., taken alone or in combination, do not disclose, teach, or suggest the subject matter of claim 21, depending indirectly from claim 11, and thus respectfully request that the rejection of claim 21 under 35 U.S.C. 103(a) be withdrawn.

For the foregoing reasons, Applicants submit that the pending claims are definite and do particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Moreover, Applicants submit that no combination of the cited references teaches, discloses or suggests the subject matter of the pending claims. The pending claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (317) 894-0801.

Respectfully submitted,



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CERTIFICATE OF MAILING

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